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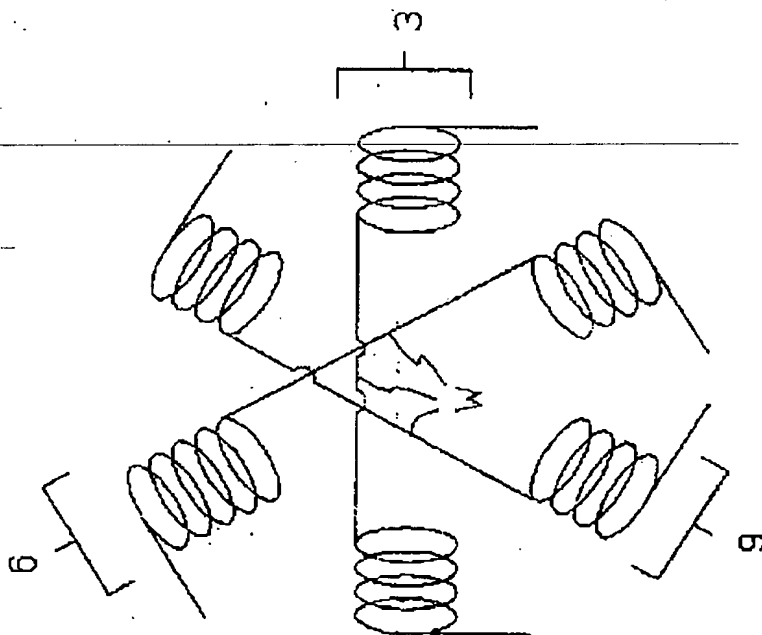


FIG 1
PRIOR ART

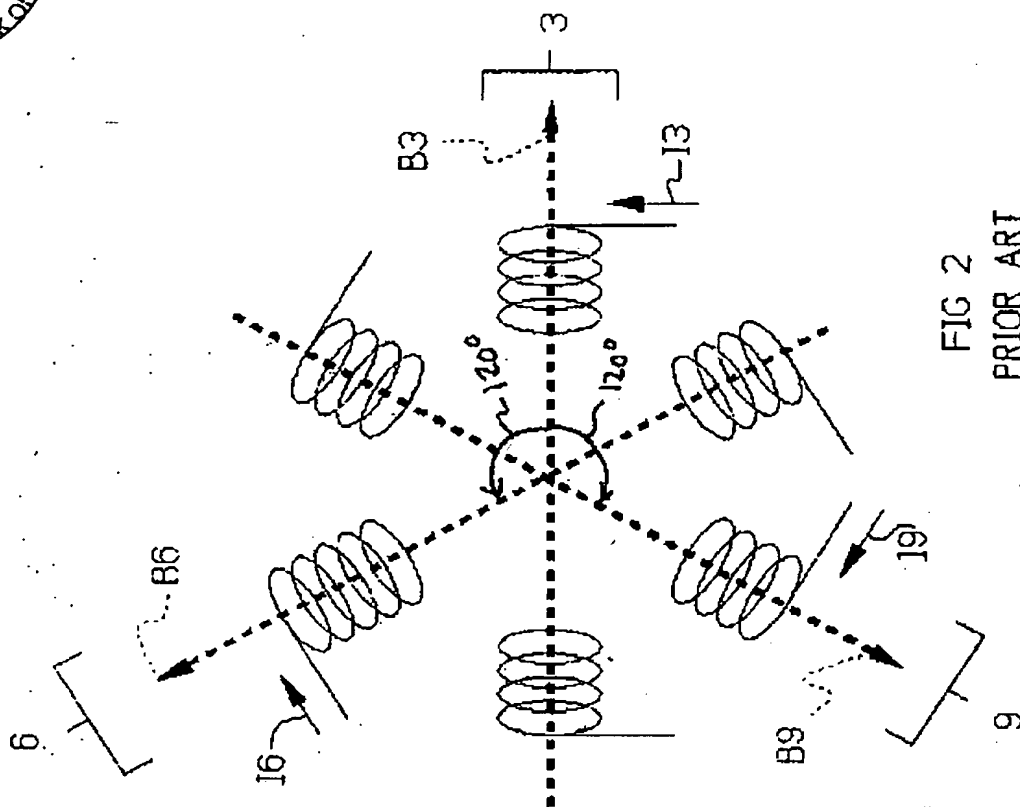


FIG 2
PRIOR ART

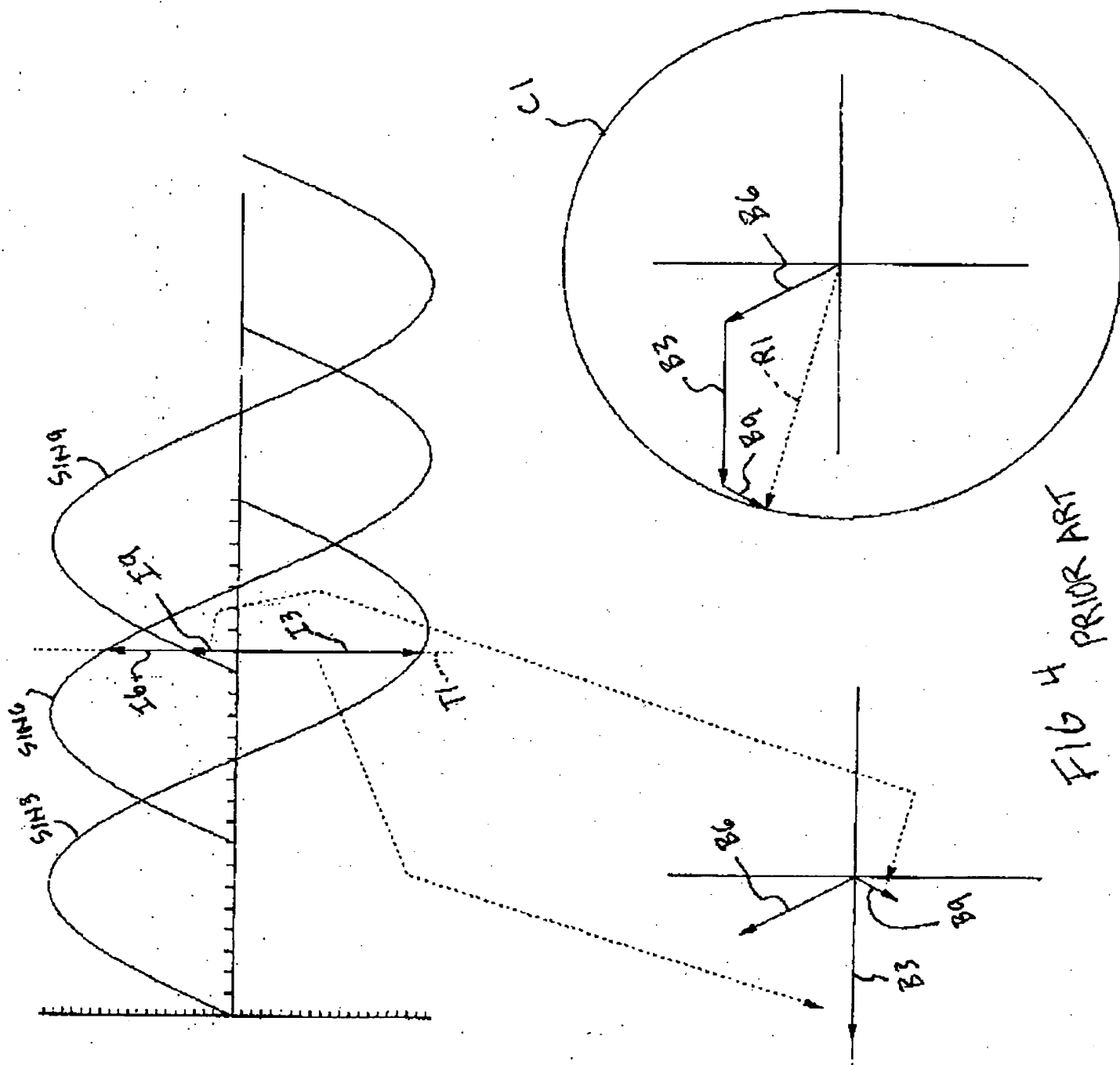


FIG 4 PRIOR ART

CC
C

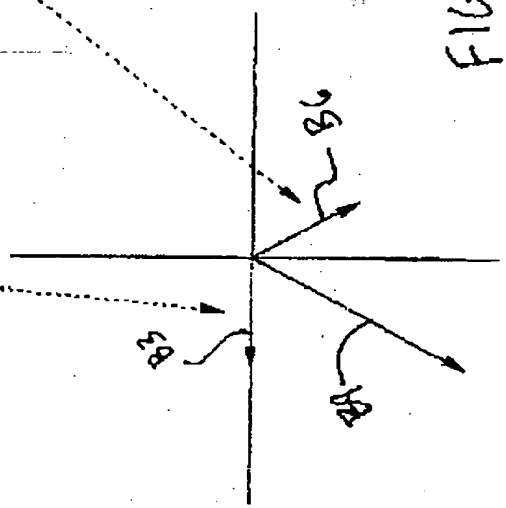
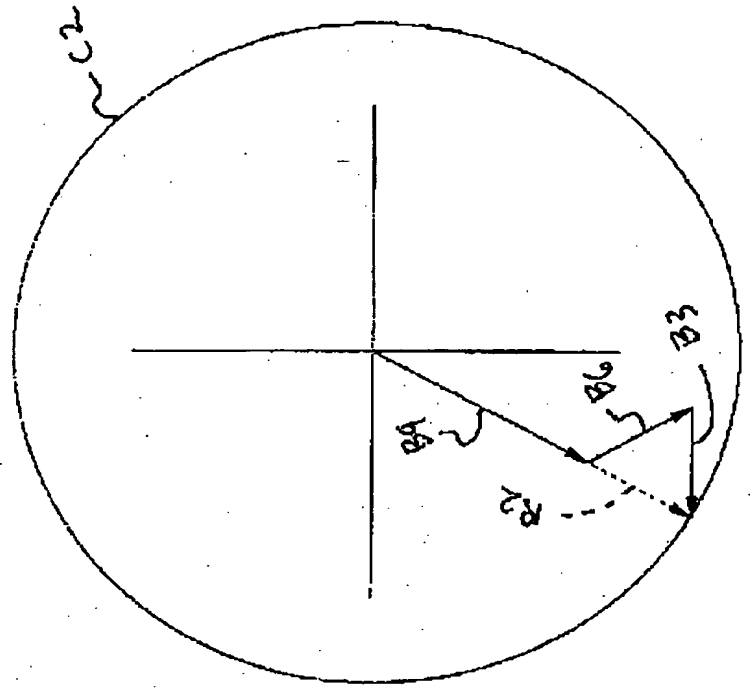
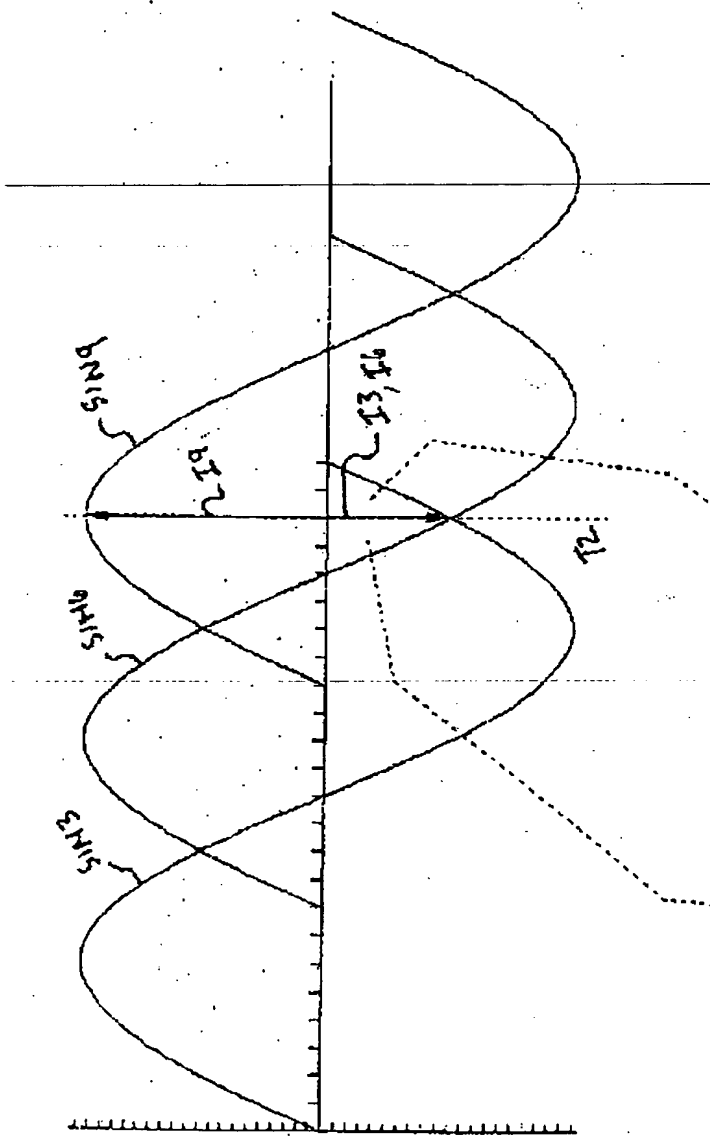


FIG 5
PRIOR ART

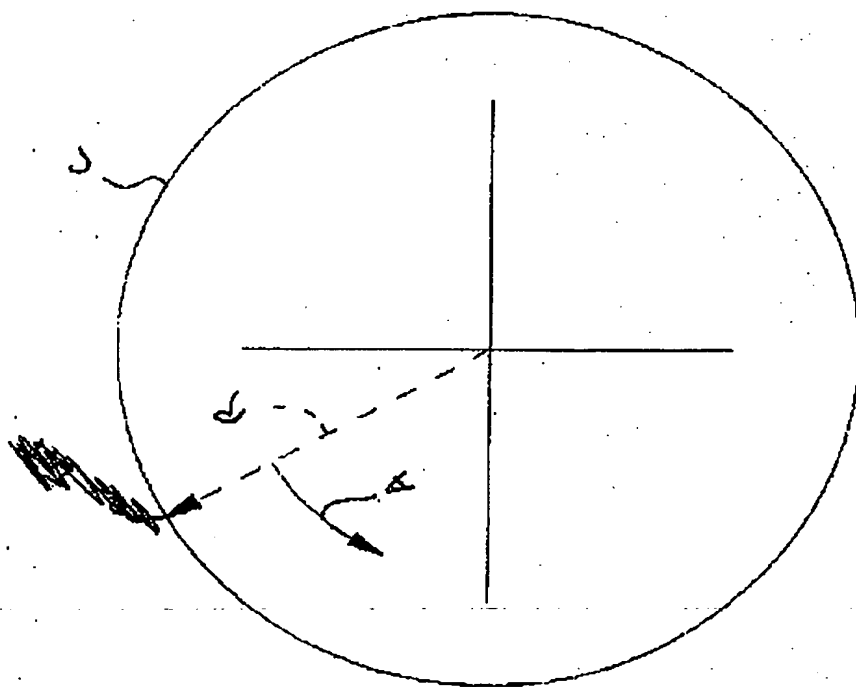


FIG 6
PRIOR ART

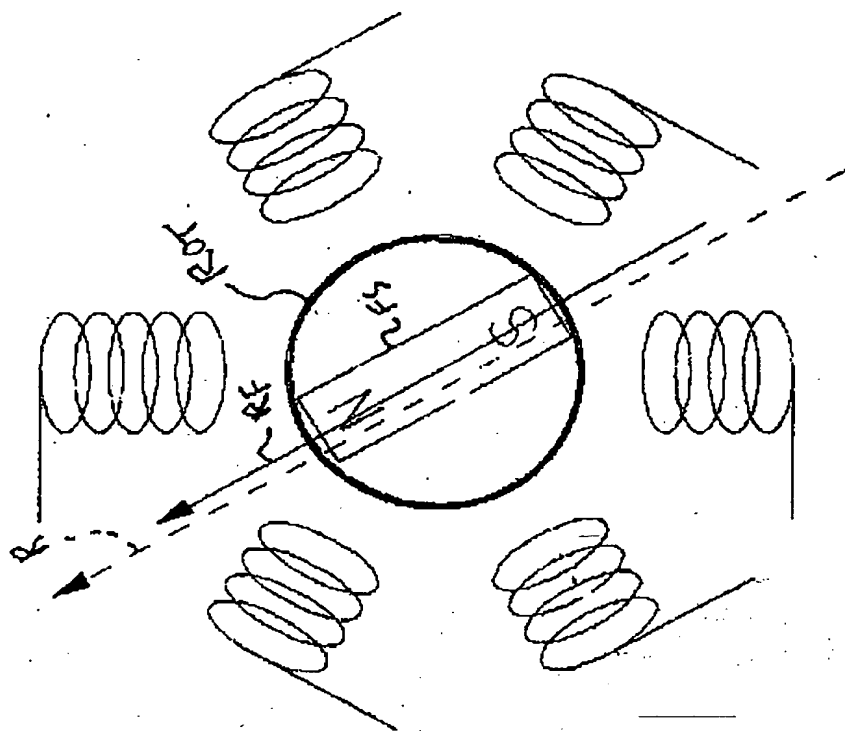
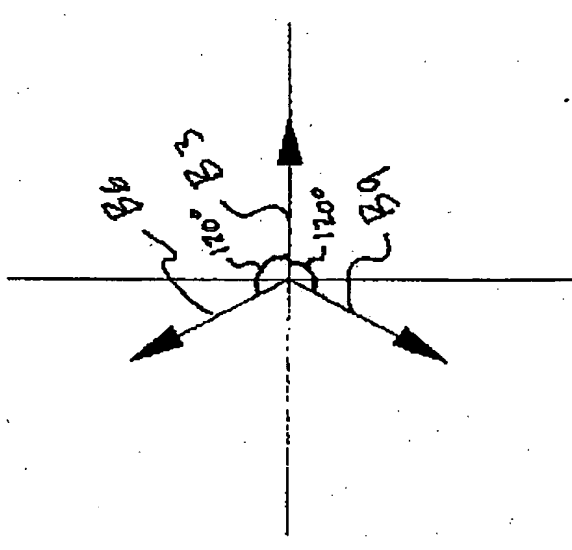
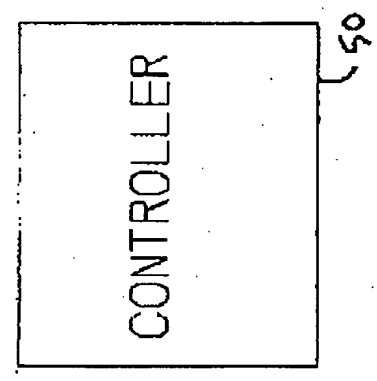
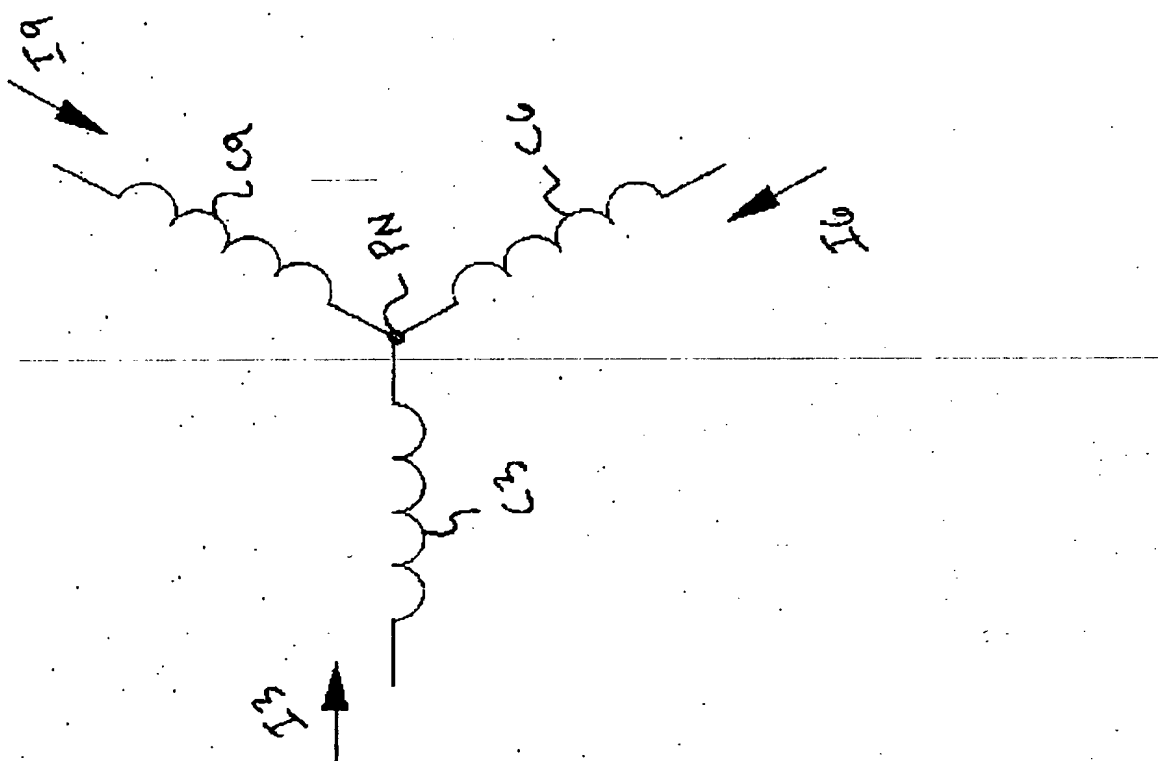
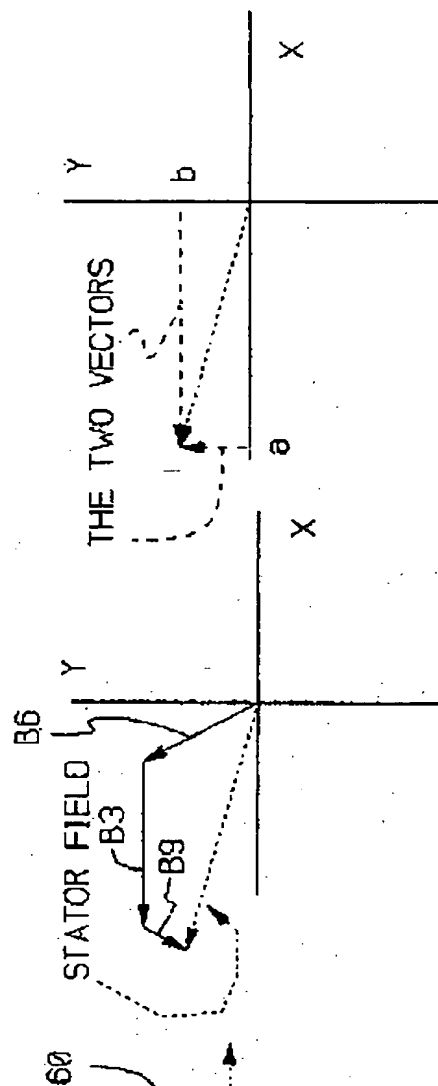
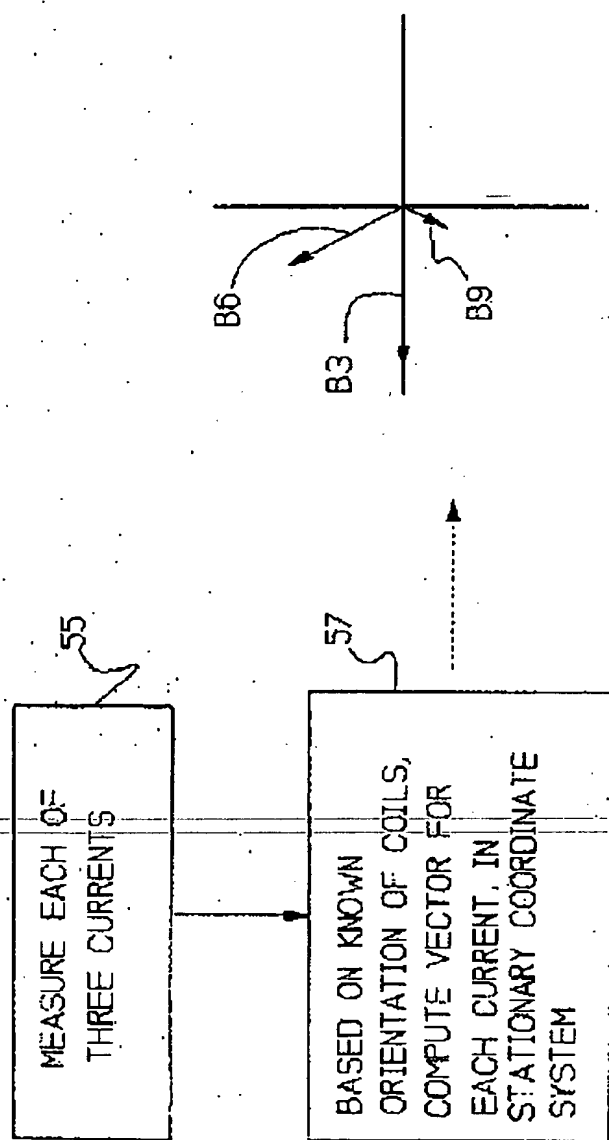


FIG 7
PRIOR ART

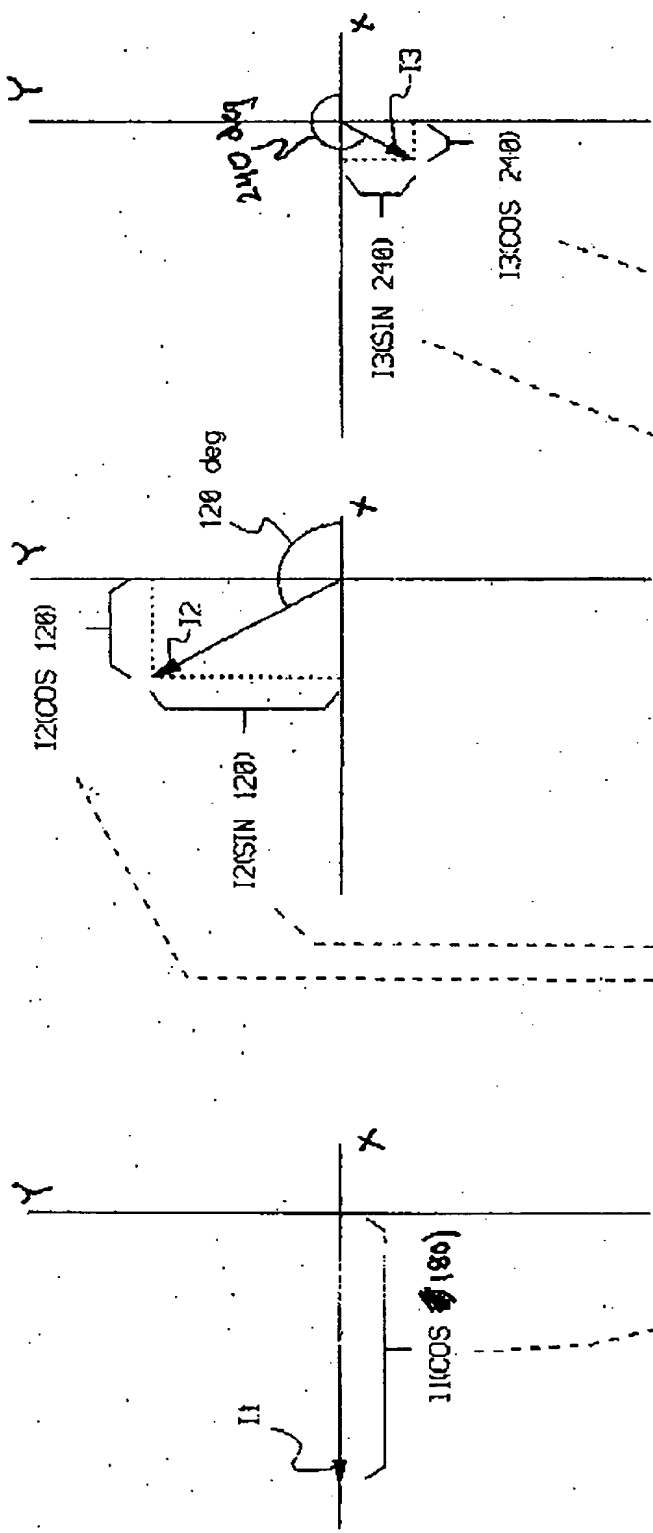


PRIOR
ART
FIG 8

FIG 9
PRIOR ART



(SEE FIGURES 10 AND 11)



ARTIST: DO
PLEASE REF-
MOUNT
ARRANGE
FIGURE
THANKS

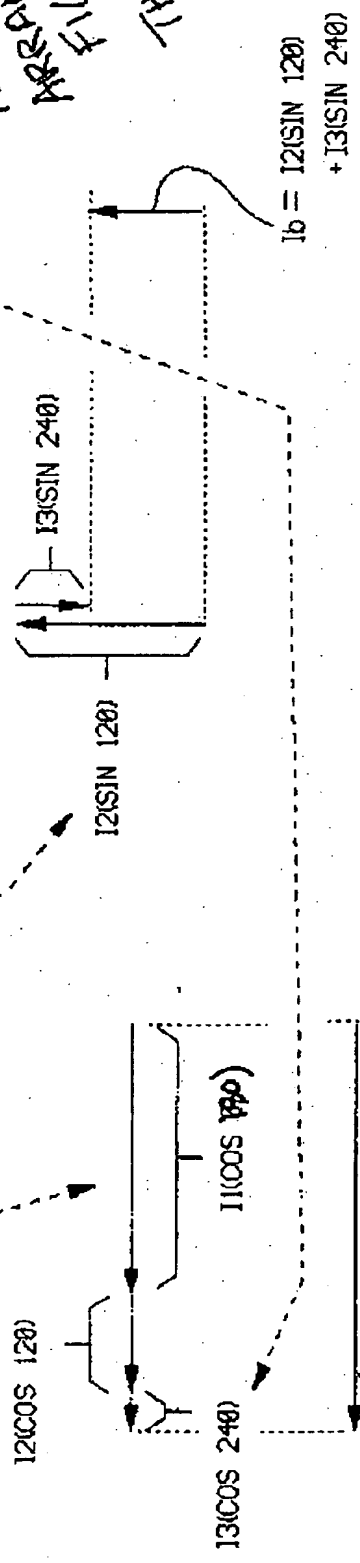


FIG 10
PRIOR ART

$$1a = 11 \cos 0 + 12 \cos 120 + 13 \cos 240$$

$$I_b = I_2(\sin 120^\circ) + I_3(\sin 240^\circ)$$

STATOR FIELD



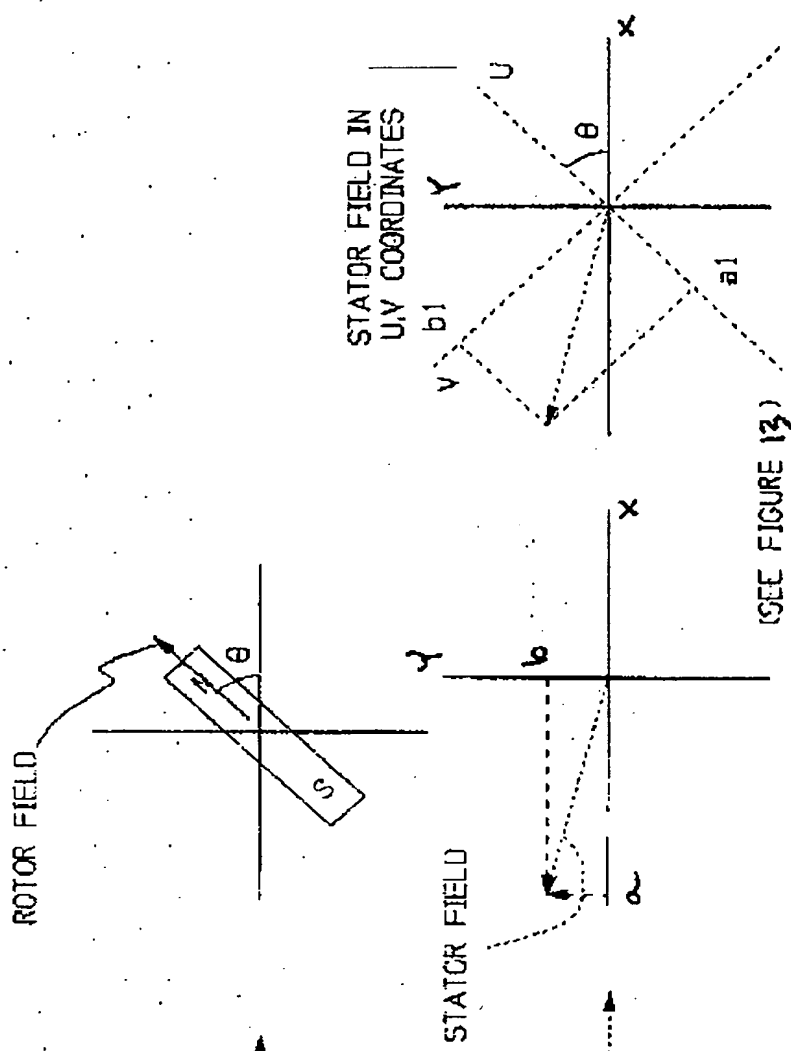
$$I_a = I_1(\cos 0^\circ) + I_2(\cos 120^\circ) + I_3(\cos 240^\circ)$$

~~BRZ~~

FIG 11

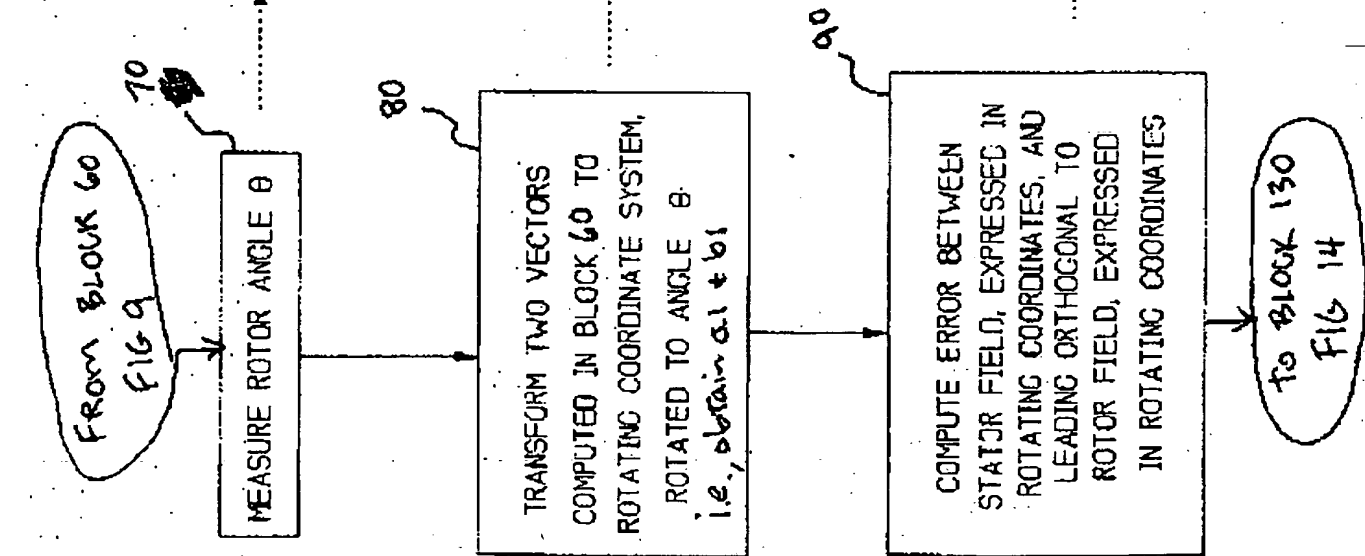
PRIOR

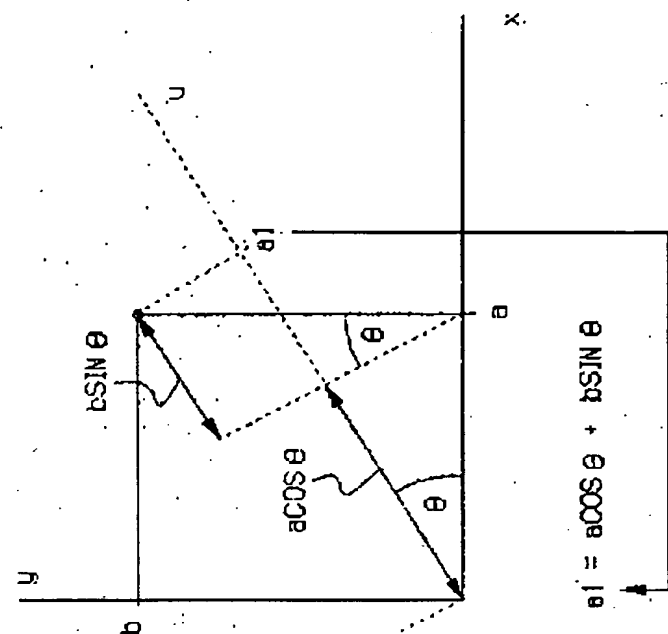
ART



(SEE FIGURE 13)

FIG 12
PRIOR ART

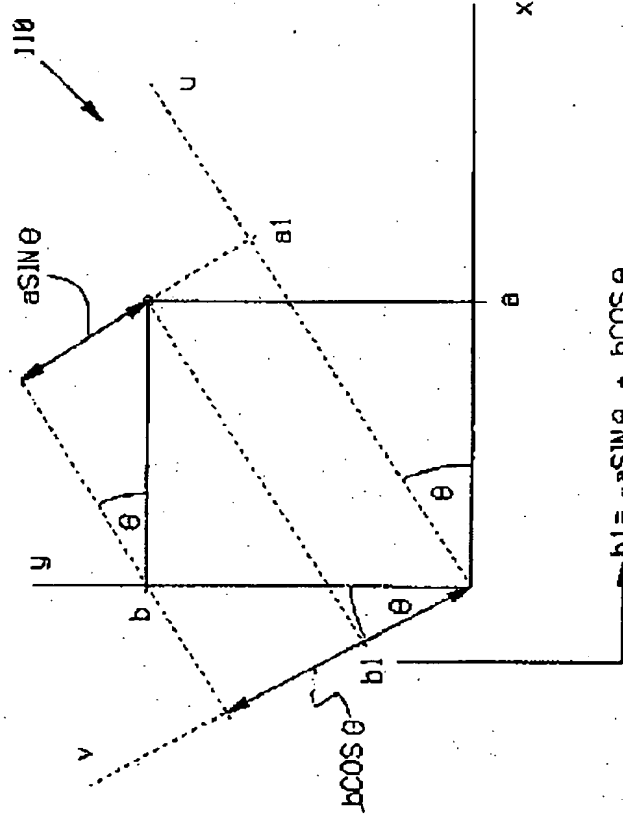
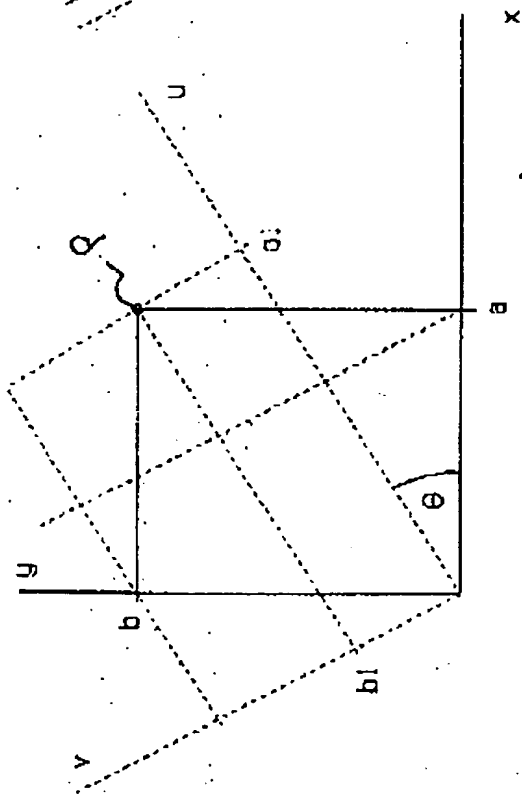




$$a1 = a \cos \theta + b \sin \theta$$

$$a1 = a \cos \theta + b \sin \theta$$

$$b1 = -a \sin \theta + b \cos \theta$$



$$b1 = -a \sin \theta + b \cos \theta$$

FIG 13
PRIOR ART

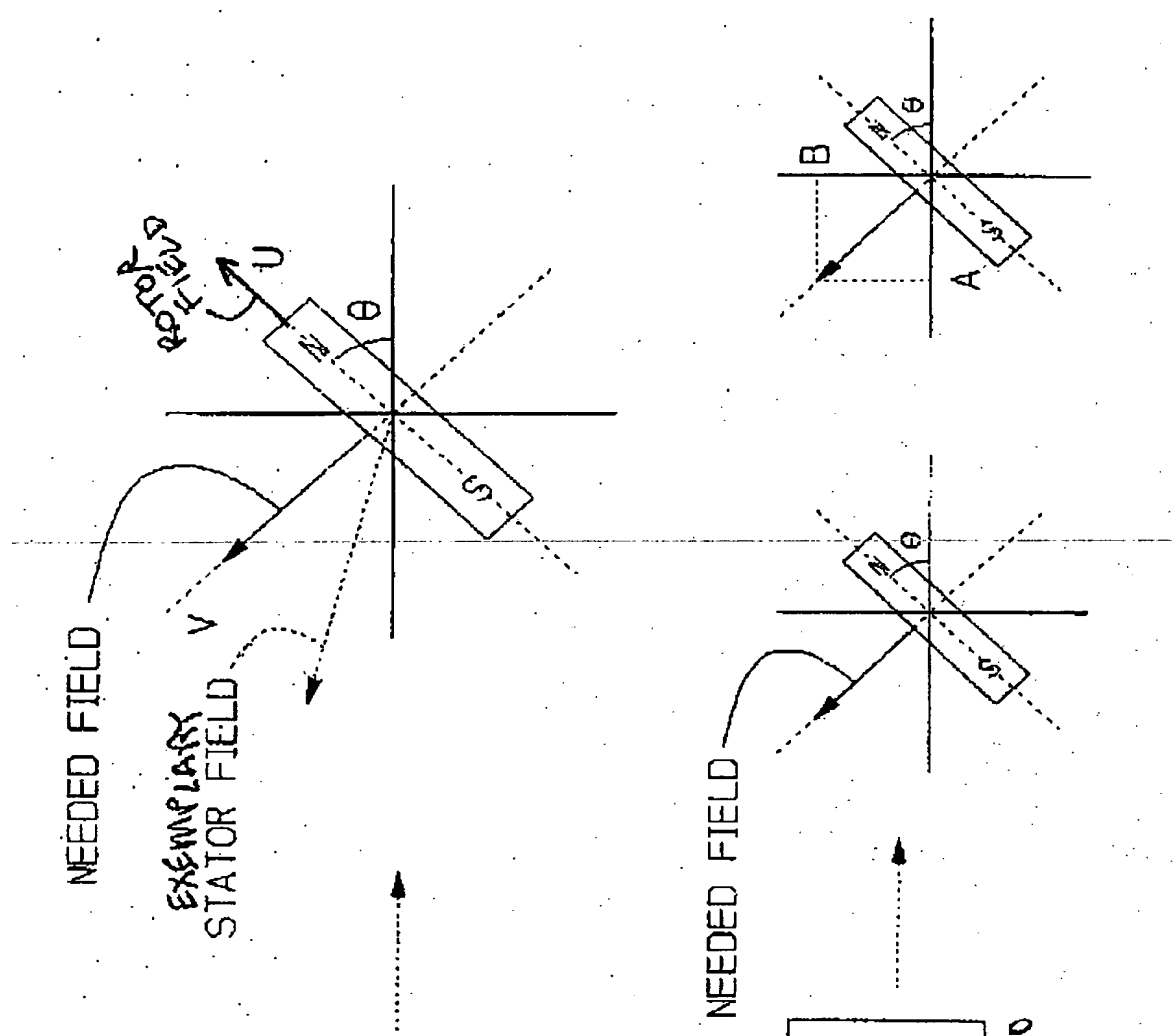
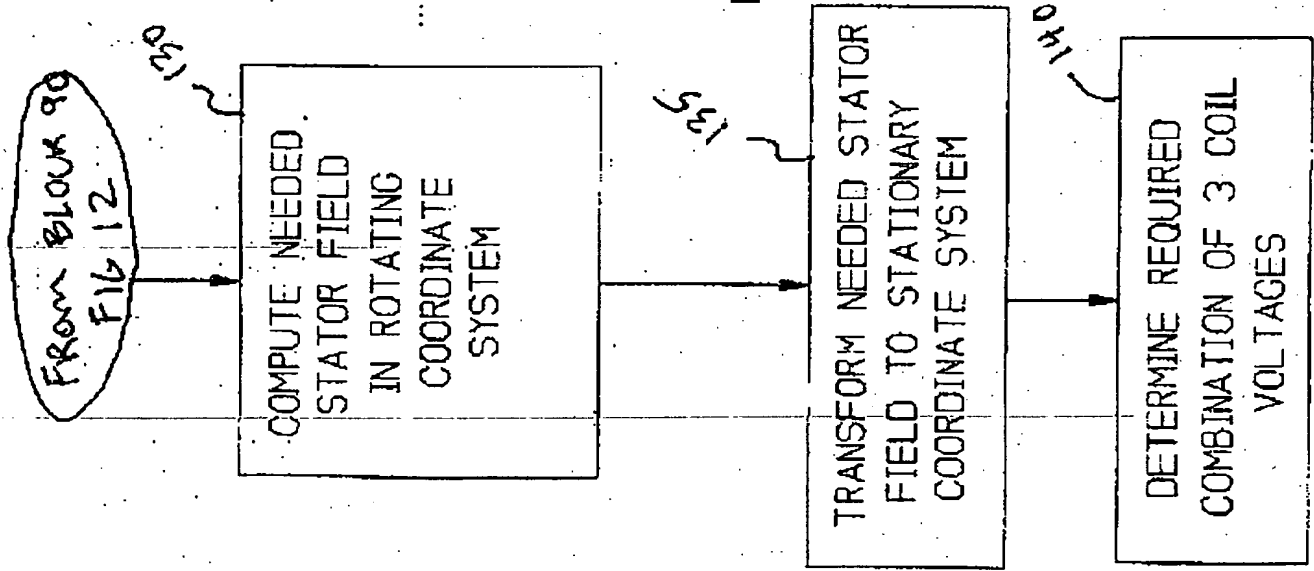


FIG 14
PRIOR ART

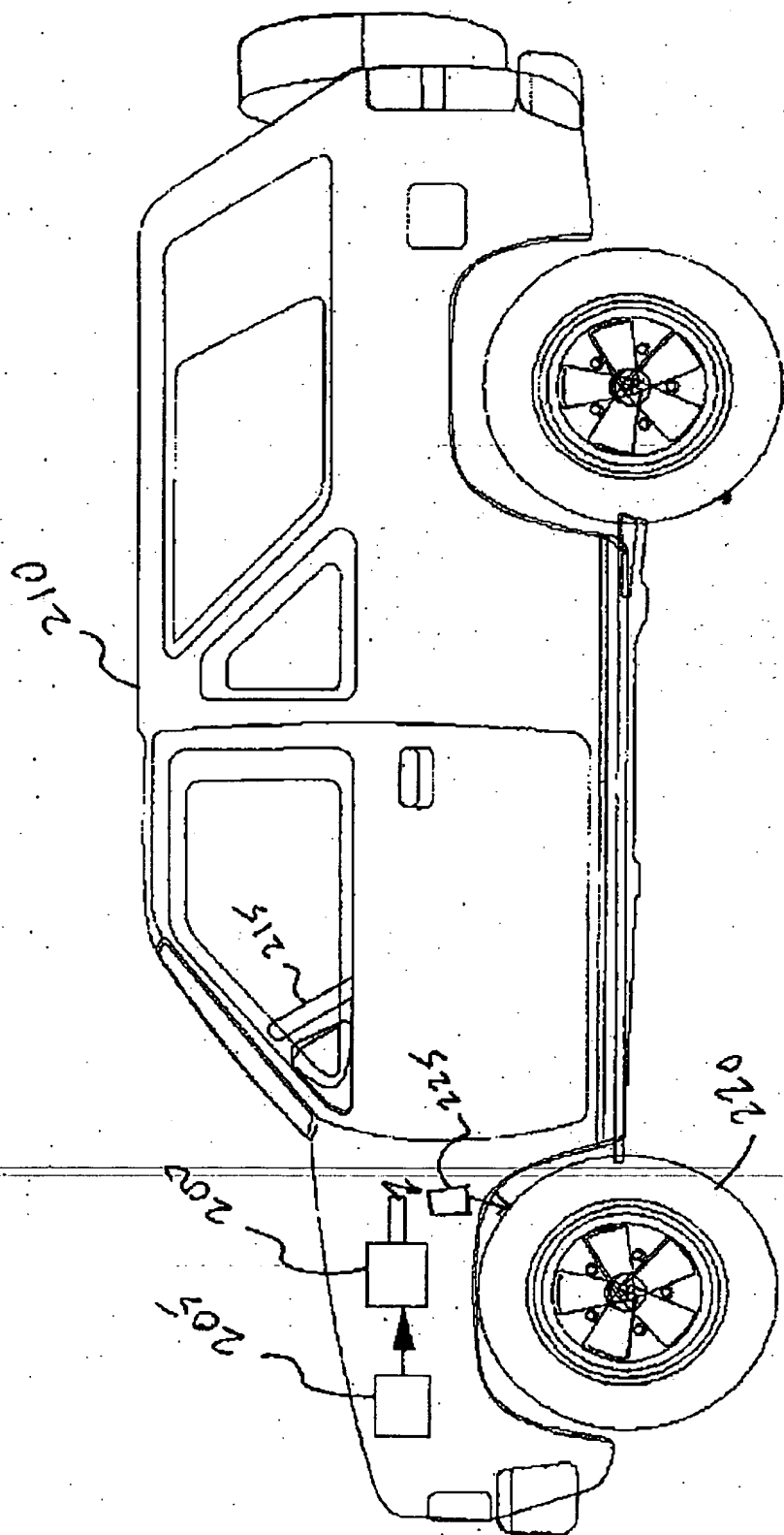


FIG 15

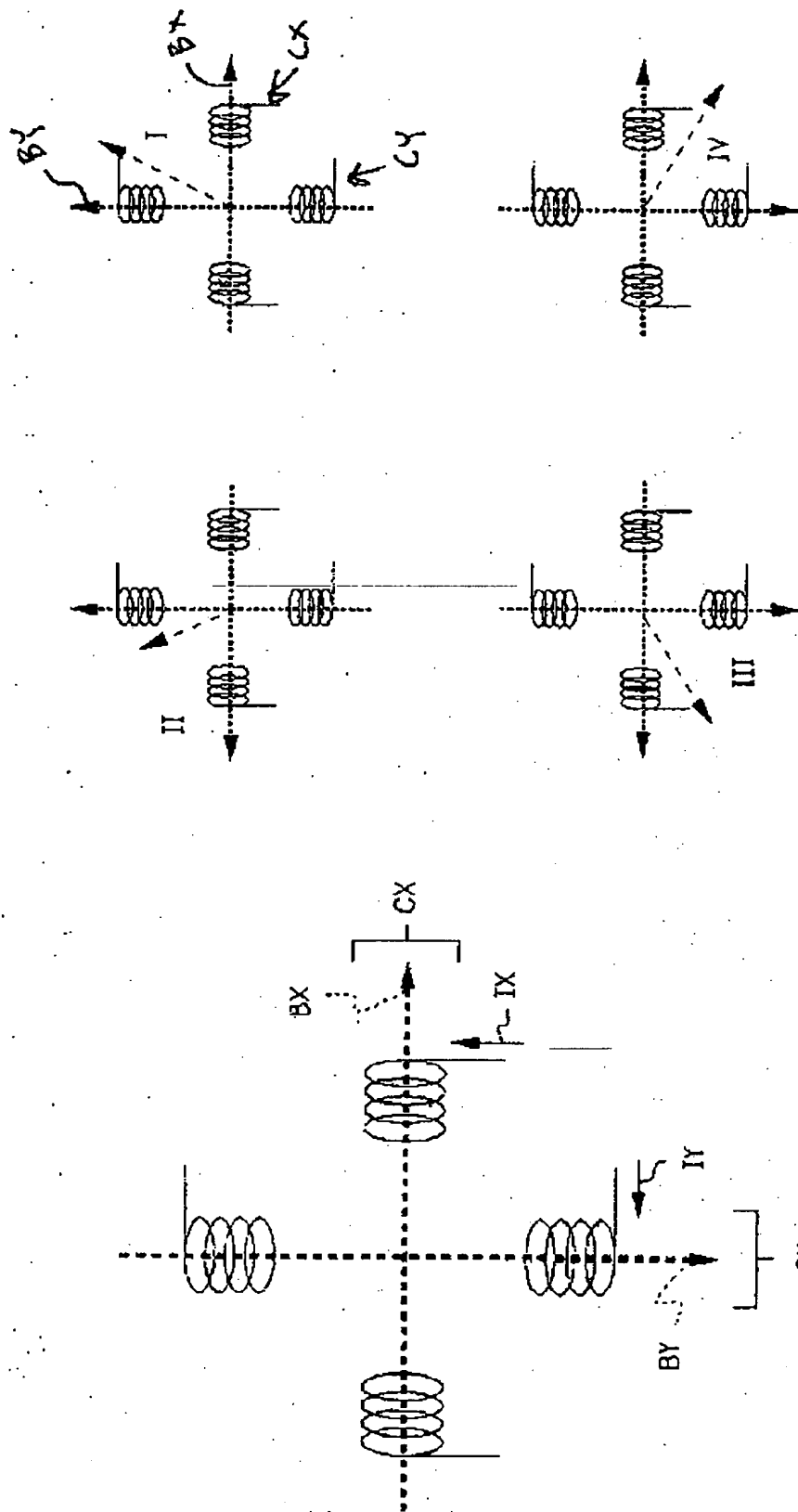


FIG 21

FIG 16

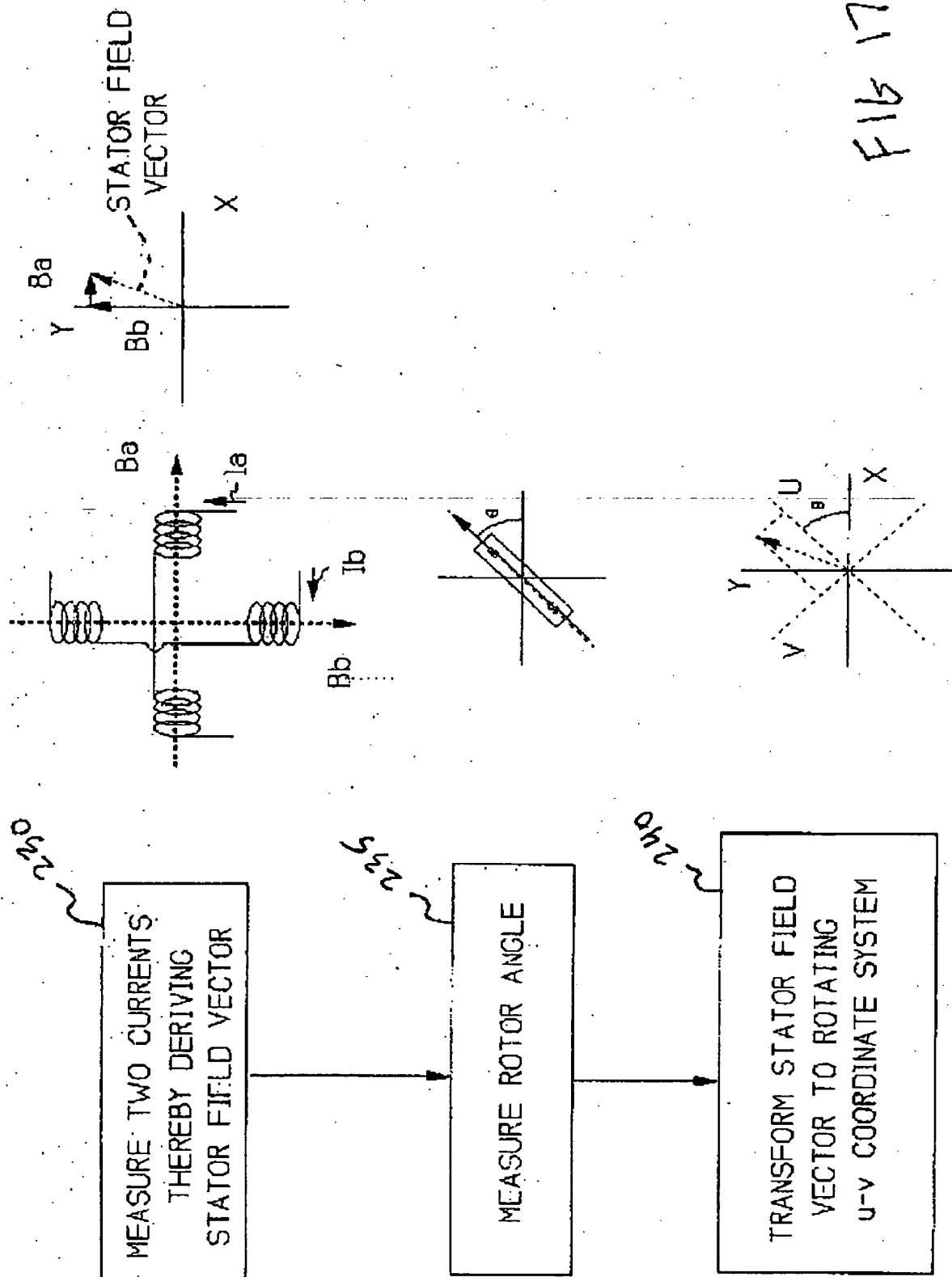


FIG 17

COMPUTE ERROR BETWEEN
b1 AND q
IN ROTATING COORDINATES

245

COMPUTE NEEDED STATOR
FIELD ANGLE IN ROTATING
U-V COORDINATES

250

TRANSFORM NEEDED STATOR
FIELD TO x-y COORDINATES

260

COMPUTE CURRENT NEEDED IN
TWO COILS

270

GENERATE CURRENT, CONSISTENT
WITH CONTROL STRATEGY

280

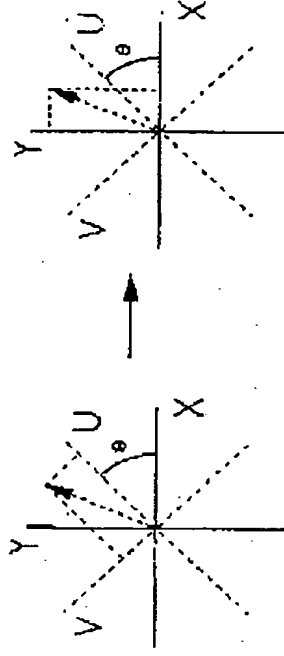
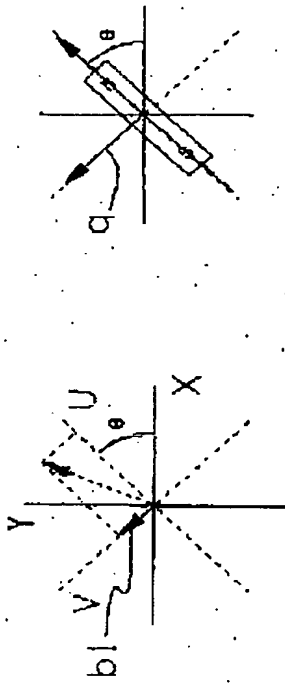
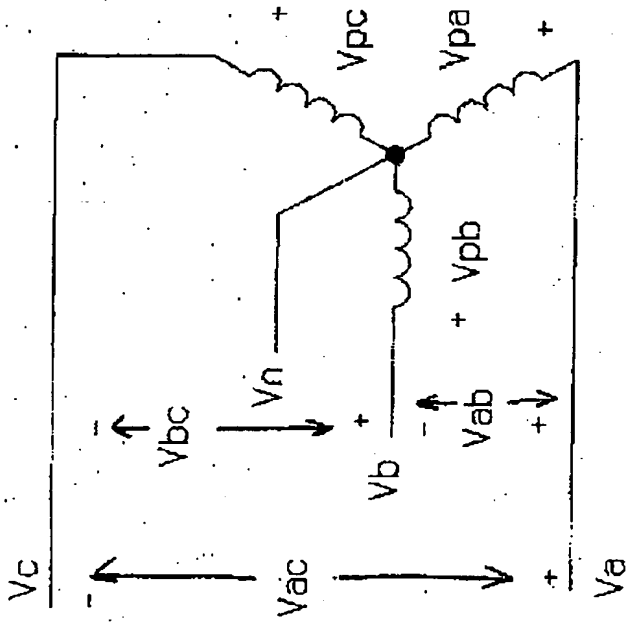


FIG 18



$$|V_L| = |V_{ab}| = |V_{bc}| = |V_{ca}| = \sqrt{3} |V_P|$$

$$\text{TOTAL POWER} = \sqrt{3} V_{LINE} I_P$$

PRIOR ART

FIG 20

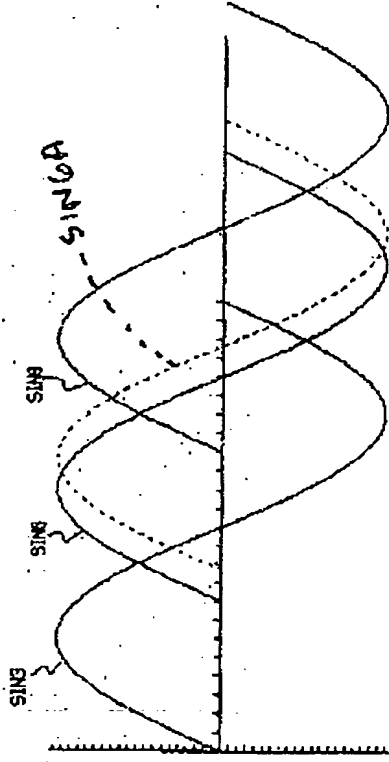


FIG 3

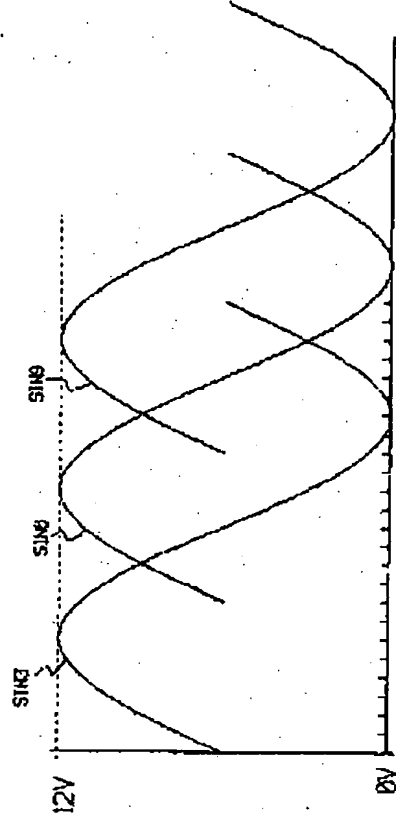
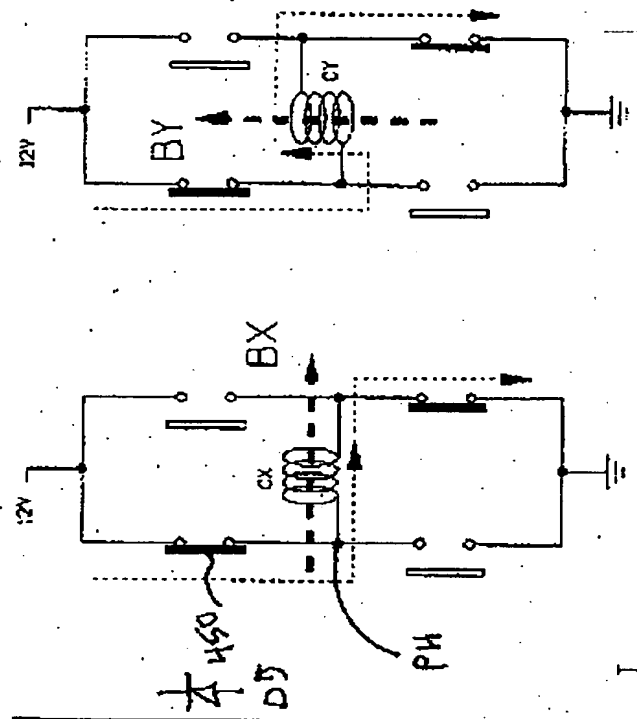
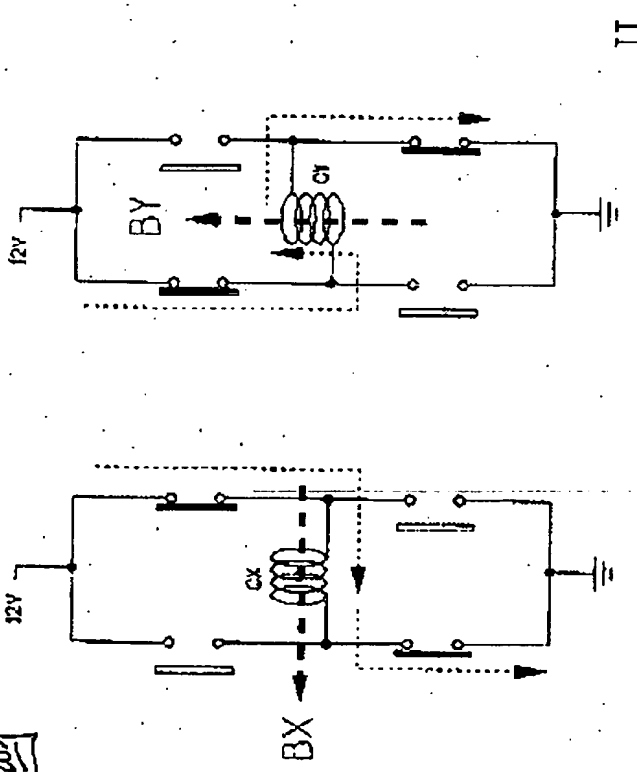


FIG 19 PRIOR ART

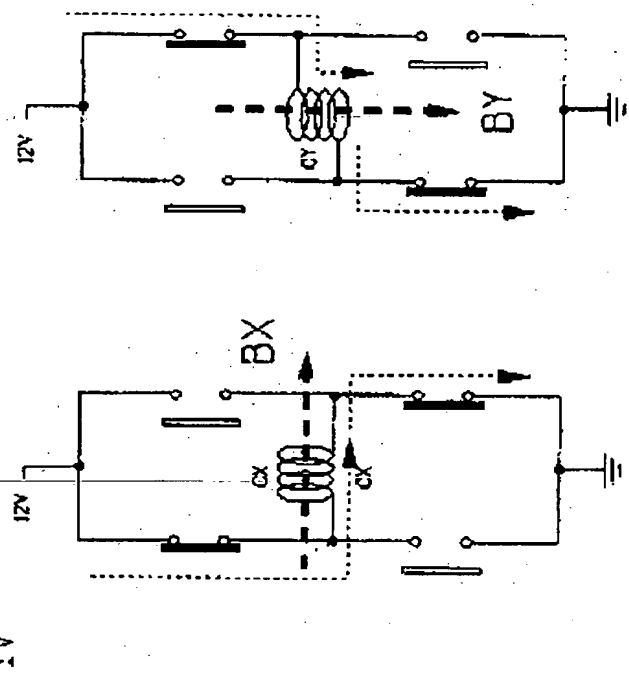
22
FIG 22



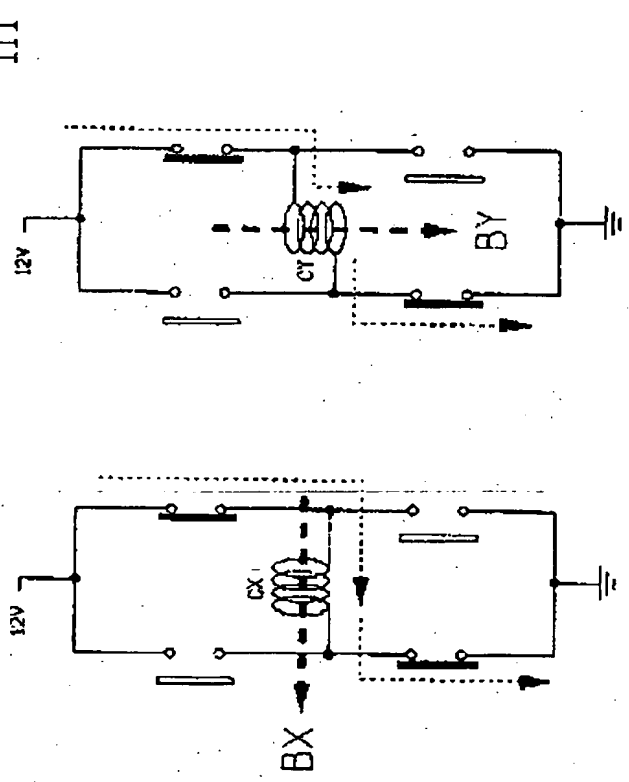
I



II



IV



III

205

FIG 23

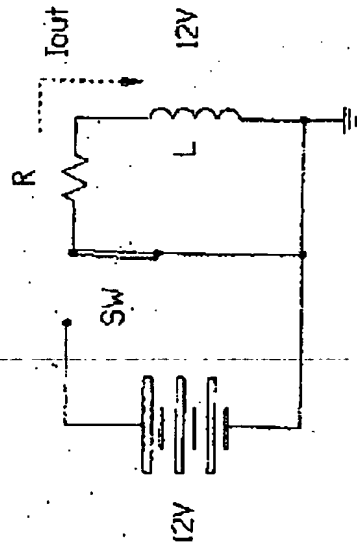


FIG 24

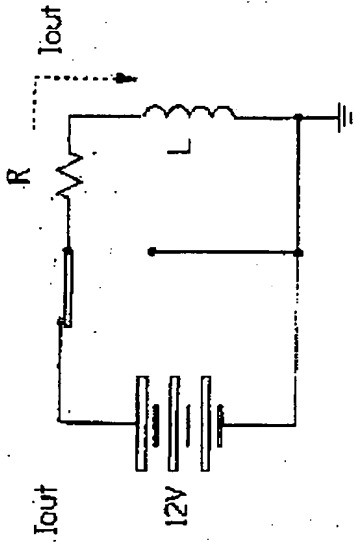


FIG 25

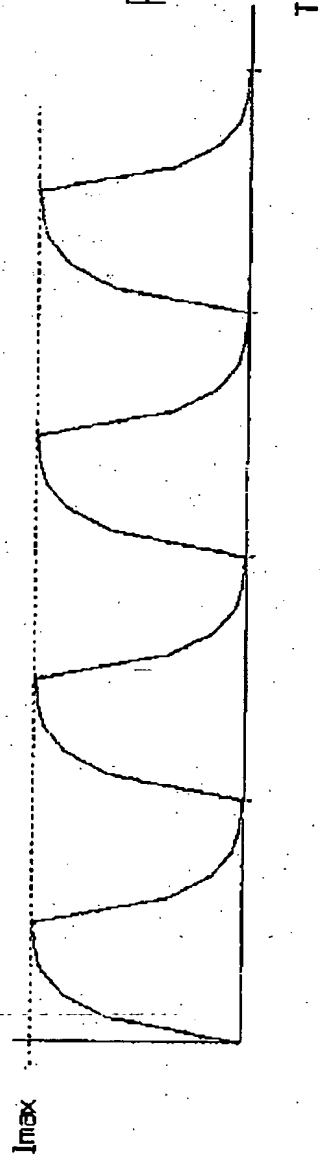
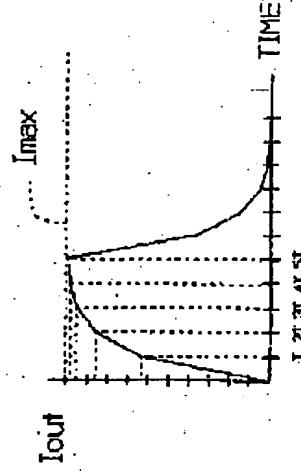
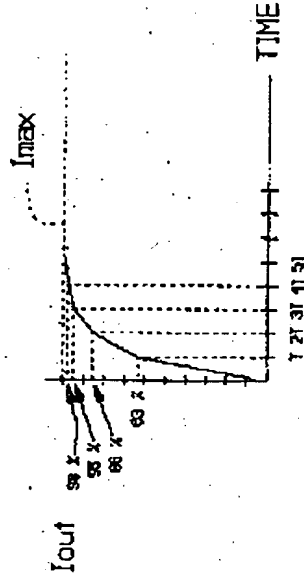
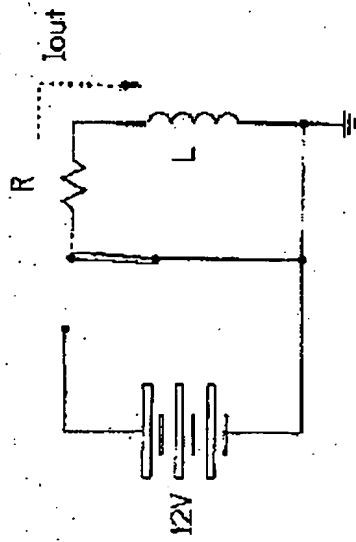
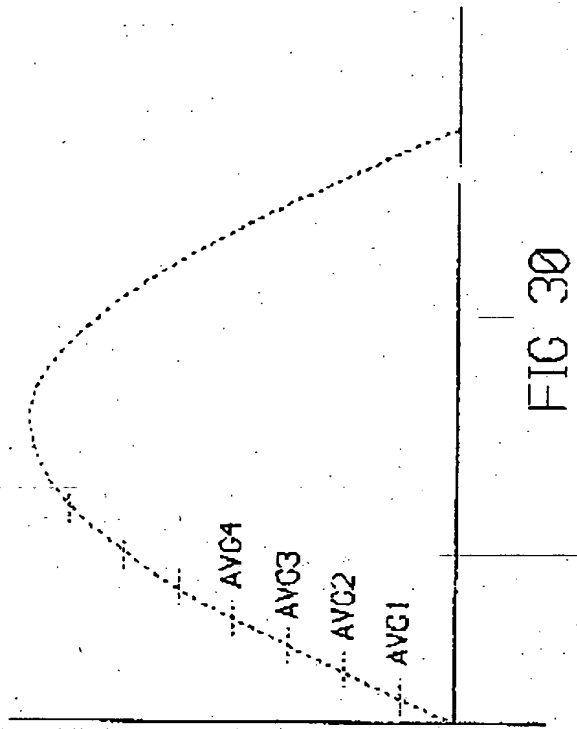
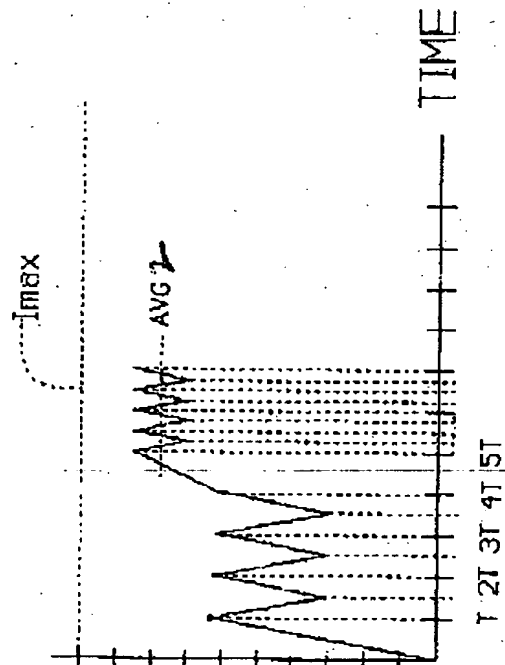
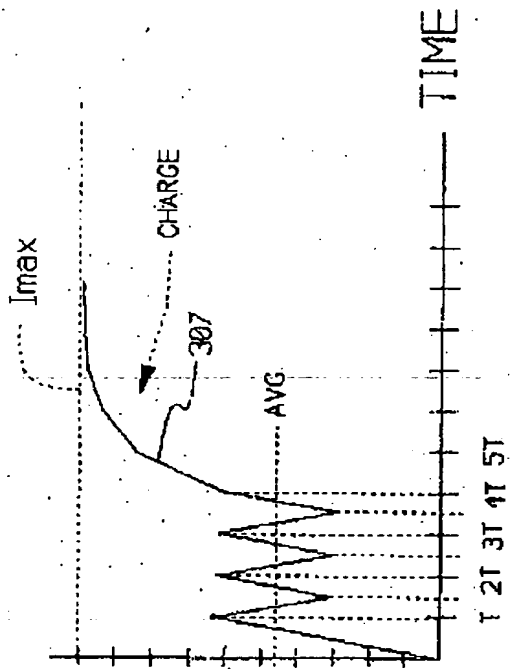
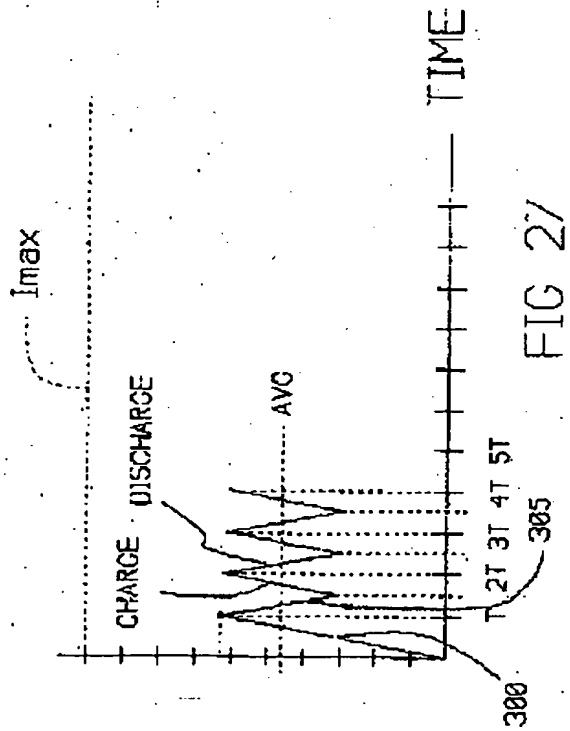
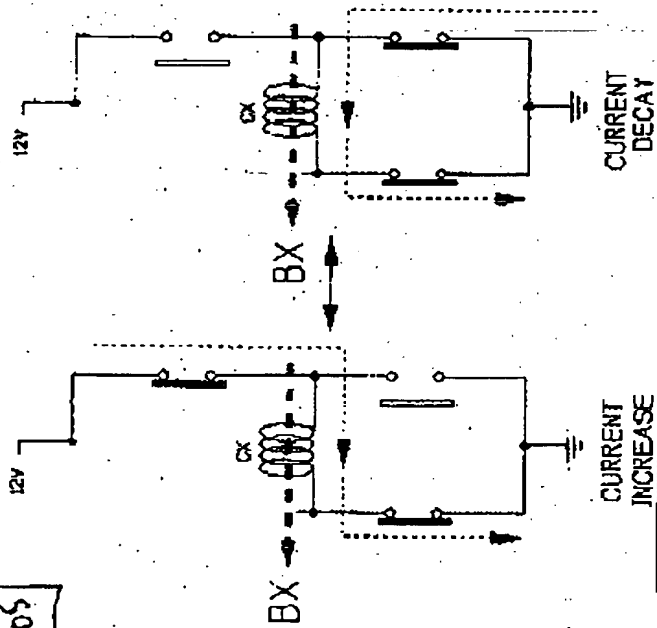


FIG 26

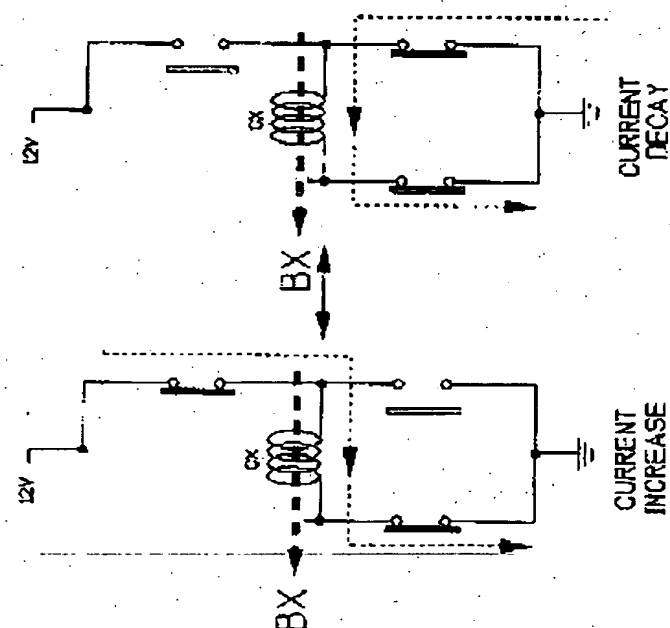


205



II

III



IV

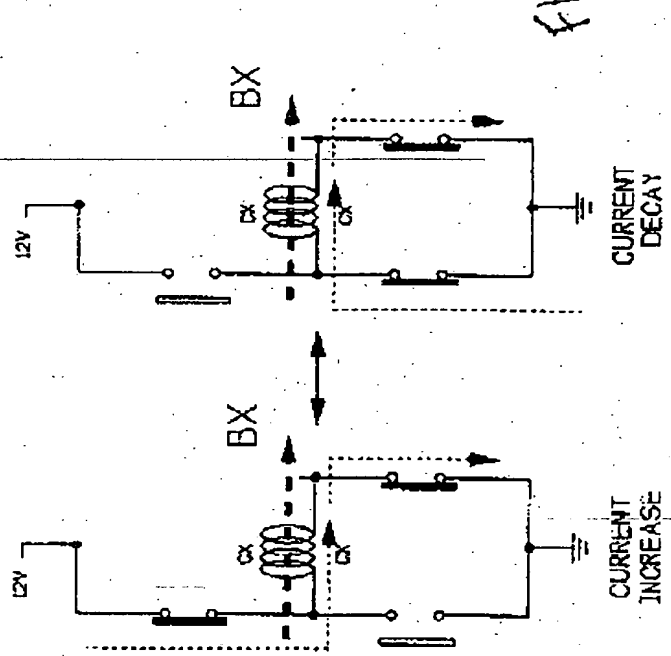


FIG 31

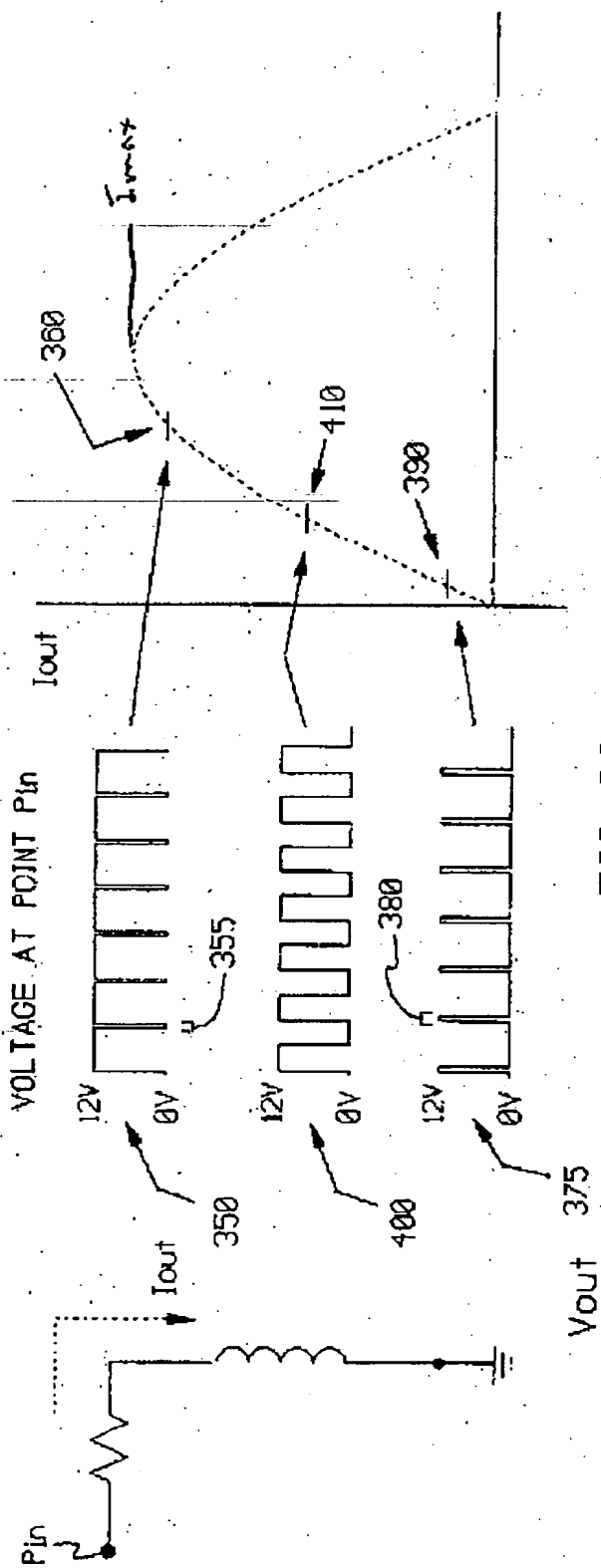


FIG 32

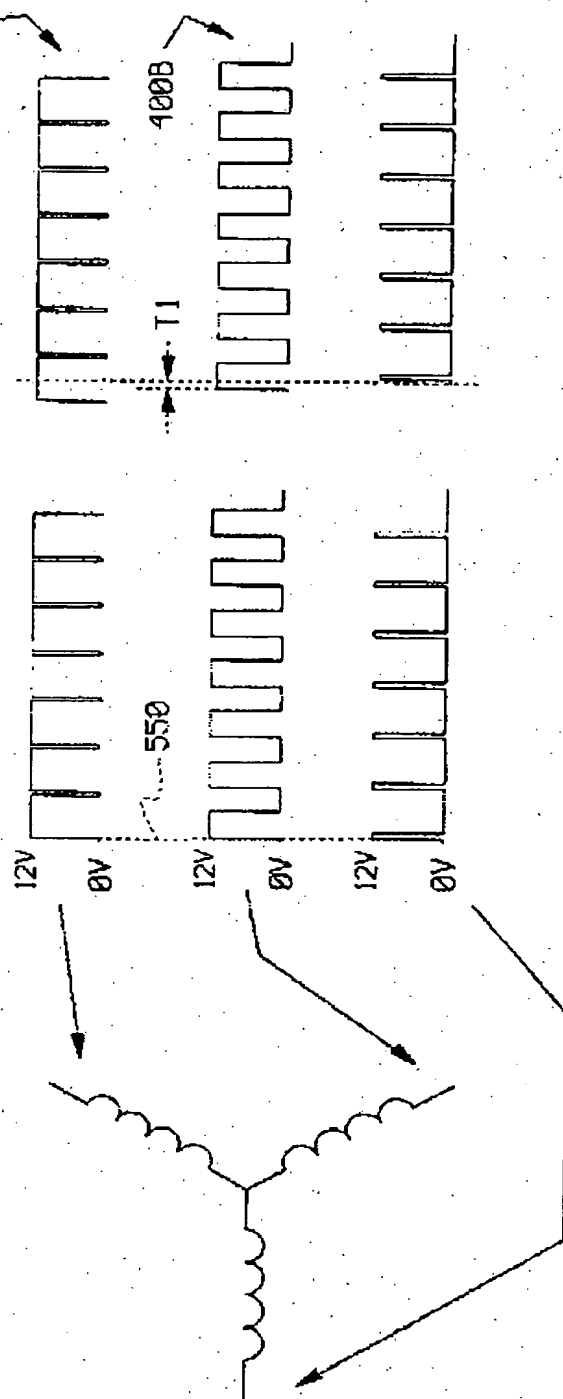


FIG 33

Motor Type	Phases	Commutation	Control
Brush DC Motor	3 slots 4 slots ... n slots	Mechanical	Open Loop Voltage Current Field Control
Permanent Magnet			
Series Wound Field			
Shunt Wound Field			
Compound Wound Field			
Switched Reluctance Motor	1 2 3 4 n	Current regulated Voltage regulated	Open Loop Voltage Current Phase Angle
Induction Motor	1 2 3 n	Sinusoidal space vector Triangle - sine	Open Loop Constant V/Hz FOC
Piezoelectric motor			
BRUSHLESS DC	2	SINE	FOC

→ INVENTION

FIG 35